



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,783	07/11/2005	Hans Braun	3335	4267
278	7590	06/09/2008		
MICHAEL J. STRIKER 103 EAST NECK ROAD HUNTINGTON, NY 11743			EXAMINER MCCLLOUD, RENATA D	
			ART UNIT 2837	PAPER NUMBER
			MAIL DATE 06/09/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/541,783

**Applicant(s)**

BRAUN ET AL.

**Examiner**

RENATA MCCLOUD

**Art Unit**

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/86)  
Paper No(s)/Mail Date 11/107.7/11/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 3,4,6,7,11,13,14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the limitation "the high doping" and "the low doping". There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation "the component". There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitations "the parameters" and "the component". There is insufficient antecedent basis for these limitations in the claim.

Claim 7 recites the limitation "the resistance jump". There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "both sides". There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "the assembly" and "the two conductors". There is insufficient antecedent basis for these limitations in the claim.

Claim 14 recites the limitation "the casing". There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-8,10-12,15 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al (US 20010015199) in view of Nakada et al (JP 2002071416)

Claim 1: Yamada et al teach a starter device for internal combustion engines (par 0035) in which an electric resistor (4) with a negative temperature coefficient (par. 0010) is connected at the beginning of the main current path of an engine, wherein the electric resistor (4) contains at least one monocrystalline semiconductor (par. 0005). They do not explicitly recite a motor. Nakada et al teach a motor starting an engine (abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Yamada et al to have a motor as taught by Nakada et al in order to drive the engine.

Claim 2: Yamada et al teach the monocrystalline semiconductor is comprised of high-doped silicon and at least one region with low doping that is likewise monocrystalline and is in particular produced by means of epoxy (abstract; par. 0030).

Claim 3: Yamada et al teach wherein a doping profile is produced in which the high doping in the region is approximately  $1 \times 10^{20} \text{ cm}^{-3}$  and the region with the low doping has a doping between  $1 \times 10^{14} \text{ cm}^{-3}$  and  $1 \times 10^{15} \text{ cm}^{-3}$  (par 0030, 0046, 0056).

Claim 4: Yamada et al teach a doping profile is produced so that within a predeterminable temperature range, in particular from 150 - 250°C, when there is a slight

Art Unit: 2837

temperature change, the electric resistance of the component changes by large amounts, in particular by a factor of up to 100 (par.0061)

Claim 5: Yamada et al teach the monocrystalline semiconductor is comprised of high-doped silicon and at least one region with polycrystalline silicon (par. 0005)

Claim 6: Yamada et al teach the parameters of the region with polycrystalline silicon are selected so that within a predeterminable temperature range, when there is a slight temperature change, the electric resistance of the component changes by large amounts, in particular by a factor of up to 100 (par. 0046).

Claim 7: Yamada et al teach wherein the predeterminable temperature range with the resistance jump lies at approximately 200°C (par. 0061).

Claim 8: Yamada et al teach the monocrystalline semiconductor is comprised of a material with a high intrinsic charge carrier density and a predeterminable, in particular low, energy gap. (par 0015)

Claim 10: Yamada et al teach the monocrystalline semiconductor is a composite semiconductor, in particular a III-V semiconductor, preferably an InSb or InAs semiconductor (par. 0043).

Claim 11: Yamada et al teach the resistor has a metallization (par. 0058).

Claim12: Yamada et al teach the resistor is fastened in an integrally joined fashion between two conductors (par. 0030).

Claim 15: Yamada et al teach a temperature-dependent resistor wherein it is used to produce a predeterminable temperature dependency (abstract).

Art Unit: 2837

5. Claims 9,13,14 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al (US 20010015199) in view of Nakada et al (JP 2002071416) as applied to claims 8 and 1 above and further in view of Babcock et al (20020033519)

Claim 9: Yamada et al and Nakada et al teach the limitations of claim 8. Referring to claim 9, they do not teach the monocrystalline semiconductor is a germanium semiconductor. Babcock et al teach a monocrystalline semiconductor is a germanium semiconductor (par. 0001). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Yamada et al and Nakada et al to have a germanium semiconductor as taught by Babcock et al order to form the resistor.

Claim 13: Yamamda et al and Nakada et al teach the limitations of claim 1. Referring to claim 13, they do not teach the assembly comprised of the resistor and the two conductors is enclosed by a protective casing. Babcock et al the resistor and the two conductors is enclosed by a protective casing (par. 0018) It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Yamada et al and Nakada et al to have a casing as taught by Babcock et al order to form the resistor.

Claim 14: Yamamda et al and Nakada et al teach the limitations of claim 1. Referring to claim 14, they do not teach the casing is a cover. Babcock et al teach a casing is a cover (par. 0018). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus of Yamada et al and Nakada et al to have a casing as taught by Babcock et al order to form the resistor.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any inquiry concerning this communication or earlier communications from the

Art Unit: 2837

examiner should be directed to RENATA MCCLOUD whose telephone number is (571)272-2069. The examiner can normally be reached on Mon.- Fri. from 5:30 am - 2pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-2800 ext. 37. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Renata McCloud/  
Primary Examiner, Art Unit 2837

/R. M./  
Primary Examiner, Art Unit 2837